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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,581

01/06/2006

Aurelie Falcou

40515.0001USWO

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7590

04/07/2009

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EXAMINER

WILSON, MICHAEL H

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Attachment to Advisory Action

1. The proposed amendment to the claims, which amends claim 5, in the reply dated 24 March, 2009 **will** be entered however the amendment fails to place the application in condition for allowance.
2. The objection to claim 5 as being of improper form for failing to further limit the subject matter of a previous claim is withdrawn due to the amending of claim 5 in the After-Final reply filed 24 March, 2009.
3. The claim rejections under 35 U.S.C. 103(a) are maintained.
4. Applicant's arguments filed 24 March, 2009 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Baldo et al. (US 6,097,147) disclose that the blocking material need only have a larger band gap than the energy level of the excitons formed in the emission layer (column 4, lines 25-29). Ueda et al. (US 2002/0122900 A1) teach specific spirobifluorene compounds and teach

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the compounds are blue emitting compounds [0024] and also transport electrons [0060].

A compound which emits blue light must inherently have a large bandgap due the energy required for blue emission. Given that the compounds of Ueda et al. emit blue light and thus have a large bandgap it would be obvious that such compounds would be suitable for the blocking layer of Baldo et al. because Baldo et al. teach compounds with large bandgaps as suitable. Further it is noted that given the position of the blocking layer the compound(s) forming the blocking layer would be required to transport electrons since the layer is between the cathode and light-emitting layers. Ueda et al.'s teaching that the spirobifluorene compounds are electron transporting would further motivate one of ordinary skill in the art to attempt to use the compounds of Ueda et al. in a blocking layer and would give one of ordinary skill a reasonable expectation of success given that the compounds possess a high bandgap and are electron transporting. Given that Baldo et al. in view of Ueda et al. teach spirobifluorene compounds, the selection of a specific spirobifluorene compound (taught by Ueda et al.) would be mere routine optimization based on the disclosures of Baldo et al. and Ueda et al.

While Baldo et al. disclose a only a few compounds as examples of suitable compounds for a blocking layer the rejection does not rely on the specific compounds disclose by Baldo et al. but relies on the disclosure that the compound must have a large bandgap.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The rejections of record based on Baldo et al. in view of Ueda et al. use knowledge and motivation which comes from the references themselves, and not knowledge gleaned from applicant's disclosure. Therefore the rejection is not based on improper hindsight reasoning and is considered proper.

Regarding applicants evidence of unexpected results, while the data establishes the criticality of two compounds (HBM1 and HBM2) the showing is not commensurate with the scope of the present claims. The present claims encompass a wide variety of spirobifluorene compounds with substituents including halides, nitro, cyano, alkyl groups, aromatic and heteroaromatic rings, and alkoxy groups while the data shows only biphenyl and t-butyl groups as spirobifluorene substituents. It is well settled that evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains and that such evidence which is considerably narrower in scope than claimed subject matter is not sufficient to rebut a prima facie case of obviousness. *In re Dill*, 604 F.2d 1356, 1361, 202 USPQ805, 808 (CCPA 1979). Also see *In re Boesch*, 617 F.2d at 276, 205 USPQ at 219; *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) and *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). As rejected claim 1 is significantly broader than examples in

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specification, which applicant cites as an example of unexpected results and which are limited to a comparison of compositions containing a specific aryl (biphenyl) and alkyl (t-butyl) group, the evidentiary showing is far from being commensurate in scope with the degree of patent protection sought. *In re Kulling*, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (fed. Cir. 1990) ("[O]bjective evidence of nonobviousness must be commensurate in scope with the claims." (quoting *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *In re Dill*, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979) ("The evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains.")).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL WILSON whose telephone number is (571) 270-3882. The examiner can normally be reached on Monday-Thursday, 7:30-5:00PM EST, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794

MHW